

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



PCT



(43) International Publication Date
24 November 2005 (24.11.2005)

(10) International Publication Number
WO 2005/110648 A3

(51) International Patent Classification⁷: B23B 27/14

(21) International Application Number:
PCT/IB2005/001276

(22) International Filing Date: 11 May 2005 (11 05 2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2004/3618 12 May 2004 (12 05 2004) ZA

(71) Applicant (for all designated States except US): ELEMENT SIX (PTY) LTD [ZA/ZA], Debid Road, Nuffield, 1559 Springs (ZA)

(72) Inventor; and

(75) Inventor/Applicant (for US only): ACHILLES, Roy, Derrick [ZA/ZA], 608 San Martinho, Leicester Road, 2007 Bedfordview (ZA)

(74) Agents: DONALD, Heather, June et al., Spoor & FisherllP O Box 41312llCraighall, 2024 Johannesburg (ZA)

(81) Designated States (unless otherwise indicated for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

(84) Designated States (unless otherwise indicated for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

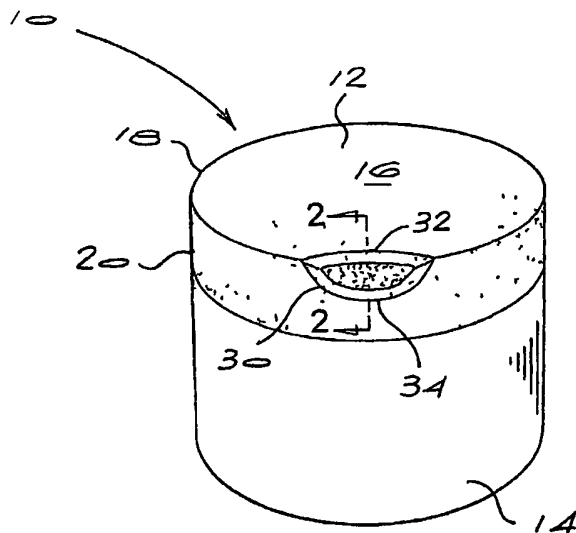
Published:

— with international search report

(88) Date of publication of the international search report:
16 February 2006

For two letter codes and other abbreviations refer to the Guidance Notes on Codes and Abbreviations appearing at the beginning of each regular issue of the PCT Gazette

(54) Title: CUTTING TOOL INSERT



(57) Abstract: A polycrystalline diamond abrasive cutting element consists generally of a layer of high grade polycrystalline diamond bonded to a cemented carbide substrate. The polycrystalline diamond layer has a working surface and an outer peripheral surface and is characterised by having an annular region or a portion thereof adjacent the peripheral surface that is lean in catalysing material. A region adjacent the working surface is also lean in catalysing material such that in use, as a wear scar develops, both the leading edge and the trailing edge thereof are located in a region lean in catalysing material.

WO 2005/110648 A3